(19) World Intellectual Property **Organization**

International Bureau



(43) International Publication Date 6 January 2005 (06.01.2005)

PCT

(10) International Publication Number WO 2005/000281 A2

(51) International Patent Classification⁷:

A61K 31/00

(21) International Application Number:

PCT/EP2004/006471

(22) International Filing Date:

16 June 2004 (16.06.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

PCT/EP03/006616

24 June 2003 (24.06.2003)

(71) Applicant (for all designated States except US): ACTELION PHARMACEUTICALS LTD. [CH/CH]; Gewerbestrasse 16, CH-4123 Allschwil (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): HOUILLE, Olivier [FR/FR]; 14, rue de Koetzingue, F-68510 Magstatt Le Bas (FR). FRETZ, Heinz [CH/CH]; Grenzacherweg 295, CH-4125 Riehen (CH). HILPERT, Kurt [CH/CH]; Eichenstrasse 5, CH-4114 Hofstetten (CH). RIEDERER, Markus [CH/CH]; Friedensstrasse 4, CH-4410 Liestal (CH). GILLER, Thomas [CH/CH]; Haupatstrasse 40, CH-4451 Wintersingen (CH). VALDENAIRE, Oliver [FR/CH]; Ochsengasse 18, CH-4123 Allschwill (CH).

(74) Agent: BRAUN, André; Braun & Partner, Reussstrasse 22, CH-4054 Basel (CH).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG. PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,

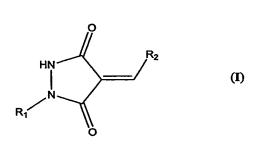
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI. FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PYRAZOLIDINEDIONE DERIVATIVES



(57) Abstract: Pyrazolidinedione derivatives of the general formula (I), wherein R₁ is hydrogen, optionally substituted alkyl, cycloalkyl, aryl, arylalkyl, heteroaryl, heteroarylalkyl or alkanoyl; and R2 is aryl or heteroaryl; tautomers thereof; geometric isomers thereof and tautomers of these geometric isomers, including mixtures of individual compounds of formula (I), or tautomers thereof, and their geometric isomers, or tautomers thereof, pharmaceutically acceptable acid addition salts of compounds which are basic; pharmaceutically acceptable salts of compounds containing acidic groups with bases; pharmaceutically acceptable esters of compounds containing hydroxy or carboxy groups; prodrugs of compounds in which a prodrug forming group is

present; as well as hydrates or solvates thereof; are active as platelet adenosine diphosphate receptor antagonists and can be used for the prevention and/or treatment of peripheral vascular, of visceral-, hepatic- and renal-vascular, of cardiovascular and of cerebrovascular diseases or conditions associated with platelet aggregation, particularly thrombosis, and, respectively, for the manufacture of corresponding medicaments. Some, albeit not all, of the compounds of the above formula (I) are novel.